
Ministry of Transport

Roads for the Future

A New Inter-Urban Plan

CORRECTION TO MAPS

- (a) The New and Expanded Towns on the Maps include both designated and proposed Towns.
- (b) Delete Solent City.

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Minister's Foreword

Roads make an important contribution to economic growth both nationally and in the regions. They have to be planned ahead and their economic consequences foreseen. We need a new strategy for building and improving national roads in the 1970s and early 1980s. The first 1,000 miles of motorway will be completed in the early 1970s. But it is no longer sufficient to plan in terms of so many miles of road since the nation is concerned with effective networks rather than with individual roads. After a good deal of work on appraisal of the future traffic situation on the whole of the existing network of trunk roads and taking into account the requirements of industry, exports, regional development and other relevant factors, we have been able to plan a network of national routes not only to give a high economic return on the vast sums involved, but also to meet the social and developmental needs of the regions and of the country as a whole.

I must emphasize that this paper deals only with the inter-urban trunk road plan. As the paper explains, the development of the new network represents only one part of the future road programme. Substantial sums will also be spent on improving other inter-urban roads serving particular local areas and on links with the main network. In addition, there is the whole problem of urban road development, to which a large part of the future road programme will be devoted. This paper does not however attempt to deal with urban roads.

The proposed inter-urban trunk road strategy needs careful thought, detailed planning and public support. All these are most likely if there is a general discussion on the aims of the strategy and on the details of the proposed network – a discussion which is based on known facts and in which all sections of public opinion play a part. There is no monopoly of wisdom on this subject and, rather than put forward a cut and dried plan, I have decided to publish this Green Paper as a basis for discussion. The suggestions in it are not, at this stage, firm government policy. Instead, they are an indication of current thinking. I hope all those interested will study the paper and let us have their views.

Introduction

1. This paper outlines a proposed new strategy for future trunk road development beyond the present road programme and suggests, for public discussion, a network of national routes which might be selected for improvement to a high standard throughout their length.
2. These national routes are the direct responsibility of the Minister of Transport who is the highway authority for trunk roads in England (whether they are motorways or ordinary all-purpose roads). The network at present covers over 5,900 miles of road. In Scotland and in Wales roads are the responsibility of the Secretaries of State for Scotland and Wales respectively. Future highway proposals for Wales are described in the White Paper "Wales : The Way Ahead" (Cmnd. 3334) published in July 1967 and proposals for Scottish roads have just been published. The proposals for Scotland and Wales will mesh in with the strategy for English roads outlined in this paper.

The Present Road Programme

3. During the 1960s and for the first few years of the 1970s the road programme has had four objectives :—

- (i) the establishment of a much needed basic network of high quality routes – mostly motorways – to provide the vital access between regions and between the major cities ;
- (ii) the comprehensive development of other important routes serving the needs of shorter distance transport ;
- (iii) the improvement of a great many routes by specific works at places where this is most needed. These isolated schemes have had the object of eliminating the worst bottlenecks, relieving time-consuming and economically wasteful congestion and meeting regional development needs ; and
- (iv) to devote a substantial and growing part of the programme to road works in urban areas.

4. By the early 1970s, when all the schemes already in the inter-urban programme are finished, we shall have some 1,000 miles of motorway and 1,000 miles of high-class dual carriageway all-purpose trunk roads, plus a large number of smaller individual trunk road improvements which have reduced traffic congestion and accidents.

Forward Planning

5. The programme of road building and improvement must continue after this to meet the rising tide of demand for road space and it will be important that every road scheme is well planned to fit national and regional needs and that the resources devoted to it are well spent. While the programme can only go forward at whatever rate the resources available at the time will permit, it is still necessary to decide, before the present strategy comes to an end in the early 1970s, what sort of pattern of modern highways is needed and how the available resources should be allocated to obtain the best possible economic and social advantages from them.

6. One factor which affects the rate at which resources for inter-urban roads might be available is the competing demand for roads in urban areas. To the extent that resources for all road works must be kept within certain limits for reasons of over-riding national economic importance, the plans for inter-urban roads must make allowance for the increasing need for road improvements in urban areas. This paper does not attempt to discuss the very difficult problem of urban roads which needs to be considered in the context of travel needs and physical planning. This is being examined in land use/transportation studies in the conurbations and similar studies in other towns and cities. It is intended to provide for an increased programme of urban road building to ensure that the needs of towns and cities can be met as well as those for inter-urban roads as put forward in this paper.

7. The Ministry of Transport has already taken action to ensure that a large number of new highway schemes will be at an advanced stage of design and preparation ready to follow on the existing programme in the early 1970s.

8. The first step in selecting these schemes was to assess in as much detail as possible the conditions that would exist by 1980 on each of the 2,000 or so sections of trunk

road in England, if nothing were done beyond the improvements already in the programme. Present conditions were known and future traffic growth was estimated, taking into account such things as the changed travel patterns that would arise from the growth and redistribution of population, including the establishment of new towns and development of existing ones. By assessing the level of congestion and accidents that would be caused by 1980 traffic on each stretch of road, it was possible to identify those sections where the worst conditions would occur and which, therefore, appeared to justify first priority. However, before deciding whether investment in a particular scheme represents good value for money it is necessary to assess with some accuracy the cost of the improvements needed and the benefits they offer including any special regional benefits there may be. A large number of schemes are therefore being prepared to a point where reliable cost/benefit evaluation can be undertaken. Well over £500 million worth of such schemes have been announced for preparation and others will follow until an initial pool of £1,000 million worth of schemes have been chosen for evaluation.

The Benefits of Road Improvement

9. The direct economic benefits derived from a road improvement scheme can be measured by calculating the savings in time, operating costs and accidents; the values attributed to them added together give the total direct benefits over a period of time and these can be expressed as a percentage of the capital cost to give a rate of return on investment. The rates of return for most inter-urban schemes, calculated in this way, are very high.

10. In addition to the direct economic benefits there are others which flow from the construction of new and improved roads. These include benefits of commercial value like regularity in delivery leading to lower stock holding, the use of larger and faster vehicles suited to better roads and particularly the stimulation of new industrial development that would not otherwise have occurred. These, too, will be given weight in assessing new road schemes.

11. The benefits derived from isolated improvement schemes are largely confined to those which arise on the

length of road concerned and its immediate environment. Where, however, it is possible to improve a route comprehensively throughout its length or to provide a new high standard route to take the traffic from a number of existing roads, additional benefits arise, mainly from the concentration of the longer distance traffic on the new route. The attraction of such routes is demonstrated by the much higher rate of traffic growth on the motorways compared with other inter-urban roads and in the steady growth of traffic on comprehensively improved roads like the A.1. What is not always so clear is that these routes also have the effect of relieving the roads which formerly carried the traffic to a degree which enhances their value very considerably. For example, the transfer of the heavy streams of longer distance vehicles facilitates the circulation of local traffic on essential local business. There is thus a strong case for basing a future highway strategy on the careful selection of roads for comprehensive improvement rather than upon a series of isolated improvements to the most congested lengths of the trunk road network. It would relieve traffic congestion on these roads but do so as part of a conscious plan to direct the traffic to a more effective network of routes. This can be achieved by considering routes as a whole and by studying the possibilities of developing new routes as well as improving existing ones to cope with future traffic needs. Successful regional or local transport plans demand advance knowledge of the sort of major highways which are likely to exist in 20 or 30 years time. A comprehensive route strategy would provide it. It would also provide the sort of forward information which industrial and commercial interests will find invaluable in planning the future of their businesses.

The Proposed Strategy

12. The Ministry's proposal is that a substantial part of the future road programme should be concentrated on the comprehensive development of a number of carefully selected trunk routes of major importance to the country which would progressively complement the 1,000 mile motorway network. These routes when completed, together with the motorway network and other routes already raised to a high standard, would provide the country with a main system of high class roads to which all important centres of population – existing and projected – would, or could easily, be connected.

Choosing the Network

13. The Ministry have given very careful thought to assessing the extent and pattern of the network of routes on which future resources should mainly be concentrated. Their assessment is shown in the enclosed maps. The routes marked in blue represent new roads which will have been completed and existing roads which will have been improved when the existing programme is complete. Routes marked in red are those which in the Ministry's estimation should be comprehensively improved to form, together with the blue routes, the main national network. It is emphasized that the maps do not attempt to show the improvements which will also be taking place on other trunk roads or on the complex of local authority roads serving all areas of the country.

14. This network, put forward by the Ministry for consideration, is based in the first place on an objective assessment of inter-urban traffic needs in the 1970s and early 1980s. It takes full account of all the facts and estimates available to the Ministry about present and future traffic needs, accidents, overload and economic loss on every section of trunk road, as well as the latest available traffic census figures. Particular attention has also been paid to the needs of industrialists and exporters and to planned changes in the pattern of industry and population.

15. The precise standard of these road improvements and their actual alignment will be determined as detailed planning proceeds. Many will undoubtedly be built as motorways. In other cases new or improved high standard all-purpose trunk roads will offer the best solution. But the Ministry envisage that dual-carriageway roads will be provided in all cases. On this basis it is estimated that the proposed network shown in red on the enclosed maps would cost about £1,600 million to complete at present day prices.

Link Roads and Localised Improvements

16. The proposed strategy does not, however, mean an end to isolated improvements. There will be many places where new or improved link roads to the network are needed to serve a particular area or where severe congestion or traffic hazards on other trunk roads will justify

localised and sometimes fairly extensive roadworks, even though the road as a whole may not qualify for comprehensive improvement. These individual improvements cannot be detailed on the maps and the precise form they would take and their respective priorities can only be decided as overall planning progresses. The intention, however, is to continue to devote a significant proportion of total resources to deal with such situations and it is envisaged that over £600 million will be spent in this way in addition to the sums devoted to comprehensive route improvements.

Economic Growth

17. A national highway strategy must be considered in the light of the important contribution it can make to national and regional economic growth. Wherever major routes are built they provide an economic stimulus to the areas through which they pass and to those distant areas brought into closer contact with the nation's main economic centres. Greater accessibility, reduced transport costs, improved reliability of delivery and service, reduced storage and depot needs all increase the ability of any area successfully to develop its economic activities and make it more attractive to industry and business. In particular, roads can substantially reinforce the major measures the Government are already taking to ensure a better balance in economic development throughout the country. It has been a comparatively straightforward matter to take account of the effect on traffic volumes, vehicle ownership and economic activity which will flow from existing plans for regional development and the associated growth and redistribution of population. This is reflected in the proposed strategic route network and it will be seen from the map, for example, that all the New Towns so far designated will be well served by the network. In subsequent proposals for regional and local road construction linked to this network full account will be taken of those cases where connection to the network can enable areas at present deprived of adequate road communications to achieve a higher degree of economic development.

18. Roads are also key elements in the long-term planning strategies which are being prepared for each region with the advice of the Regional Economic Planning Councils.

The national routes which traverse a region and the other roads which meet regional and local needs, including those to New Towns and to areas subject to major economic change such as the Special Development Areas, must all be considered together and integrated into a comprehensive regional road programme which will ensure maximum economic growth. In deciding on link roads to meet local needs the local authorities concerned will be fully consulted.

Economic Appraisal

19. A new and more advanced technique for appraising the direct economic benefit of highway networks has been developed in the Ministry and is in course of being applied in a way which will permit comparisons to be made of the economic value of substantial road networks, including comparisons between alternative networks for the trunk road system as a whole. It will also permit the value of a system of comprehensive improvements to be compared with that of a similar amount of unconnected works, to establish the additional benefits which might flow from the former. The method is described in the Appendix.

Priorities and Timescale

20. It is neither necessary nor desirable at this stage of planning to attempt to decide on the order of priority for the improvements proposed within the broad strategy. This will emerge in the course of detailed planning and the publication of the present proposals will in no way replace the normal processes of scheme selection and negotiation with local authorities and other interested parties — nor, of course, the statutory procedures. The intention is to retain at this early stage the maximum flexibility of choice about the priority of individual routes and schemes.

21. This flexibility also applies to the plan as a whole even after the network has been agreed. It will be possible to modify the network if this is shown to be desirable in the light of future developments. It is to be expected that proposals will be made from time to time for additions to the network, (e.g. for new links to carry traffic to the roads in the network) rather than for its radical revision. If these are substantiated and agreed their implementation becomes a matter of priorities in the manner set out in the previous paragraph.

22. As to timing, any forecast made now can only indicate the approximate order of time and must therefore be related to a span of years. As indicated in earlier paragraphs the Ministry envisage that to carry out the comprehensive improvements now proposed and at the same time to undertake a substantial amount of work on other inter-urban roads would cost in all some £2,250 million over a period of 10 to 15 years from 1972.

Public Participation

23. As stated in the Foreword, the primary purpose of this Green Paper is to invite public discussion of the Ministry's proposed highway strategy and the suggested strategic network shown in the enclosed maps. In particular, the Minister is inviting those organisations whose standing and interest in the planning of roads is of special importance (like the Regional Economic Planning Councils and the local authorities) to let him have their comments: also those which represent the road users, the hauliers, the passenger vehicle operators, the motorists and the cyclists. He is asking for the views of those organisations with a more general but important interest (e.g. the T.U.C. and the C.B.I.) and is also open to receive those of any other institution or organisation and of individual members of the public. The opinions and proposals received will be carefully evaluated using, where appropriate, the appraisal techniques described above.

24. The plan in this Green Paper is not a proposal containing or based upon firm design proposals for individual roads. What is being put forward for consideration is a broad strategic plan. The detailed design and location of particular improvements will emerge in the normal course and the usual facilities will then be provided for public inspection of proposals and intervention. The publication of this network is intended to provide the opportunity to influence broad planning at the earliest possible stage.

Conclusion

25. When the appraisal of the network and comments and suggestions received by the Ministry has been completed and tested, the Minister will announce the firm route network which will be the basis of the strategy. Much will depend on the public response to this paper but the present intention is to announce the plan before the end of 1969.

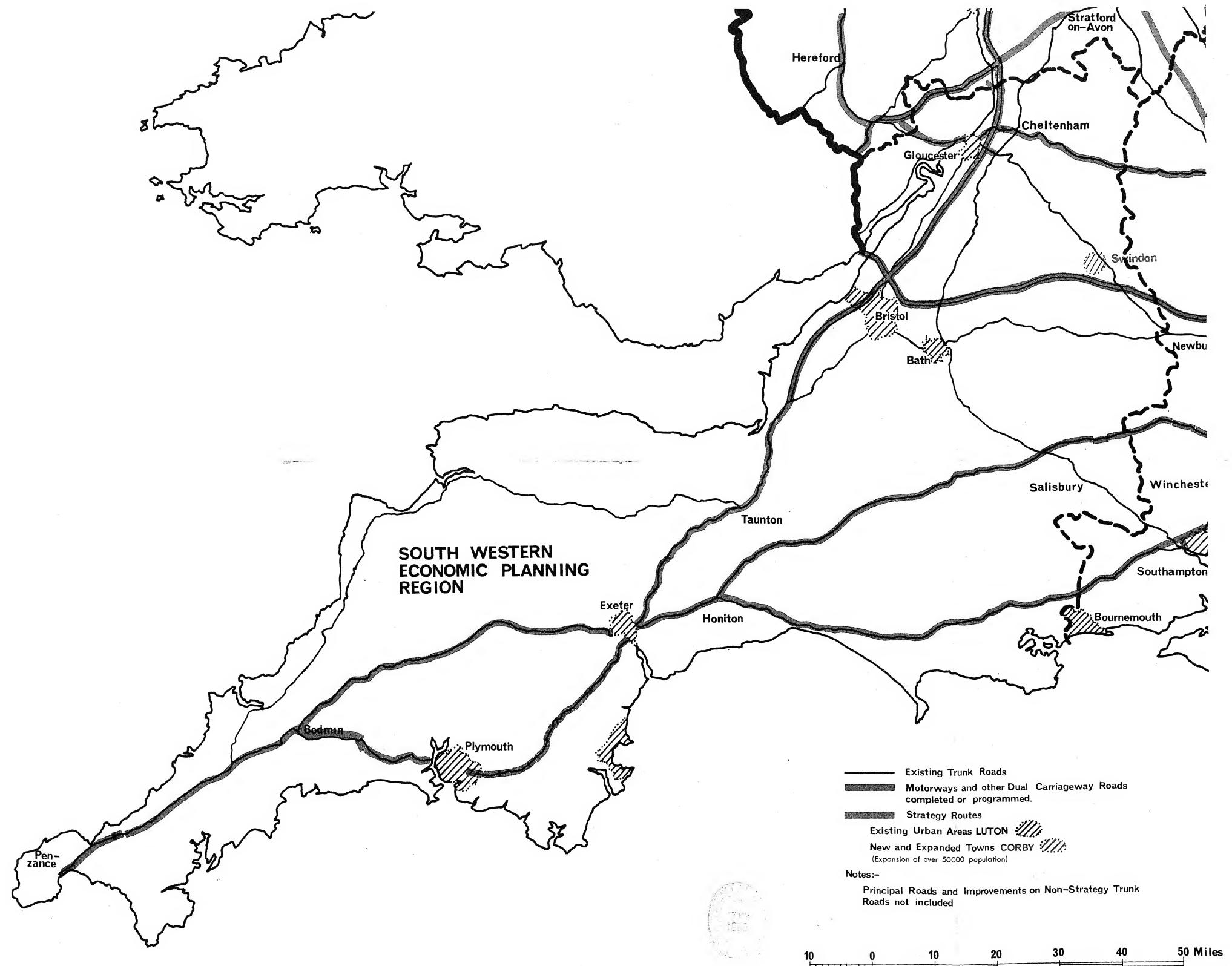
Appendix.

A feature of the proposals for a new strategy for inter-urban highways is that techniques of a more advanced kind have been developed by the Ministry of Transport which can be used to appraise the proposed network and its major components. The Department has for some years calculated the economic benefits arising from individual road schemes in terms of the savings in vehicle operating costs, the working and non-working time of vehicle occupants and the cost of accidents. These have been the basis of cost/benefit calculations which have been a material factor in establishing the relative priorities of particular road proposals. No satisfactory method has existed however for fully drawing into these calculations the wider benefits to traffic which a major road scheme bestows on the surrounding road system, still less to associate together interacting improvements within a network and calculate their combined effect. The Ministry has developed a method which is capable of being applied for this purpose and its field of application is currently being extended for assessing the comparative economic value of networks over (say) a region or over the country as a whole.

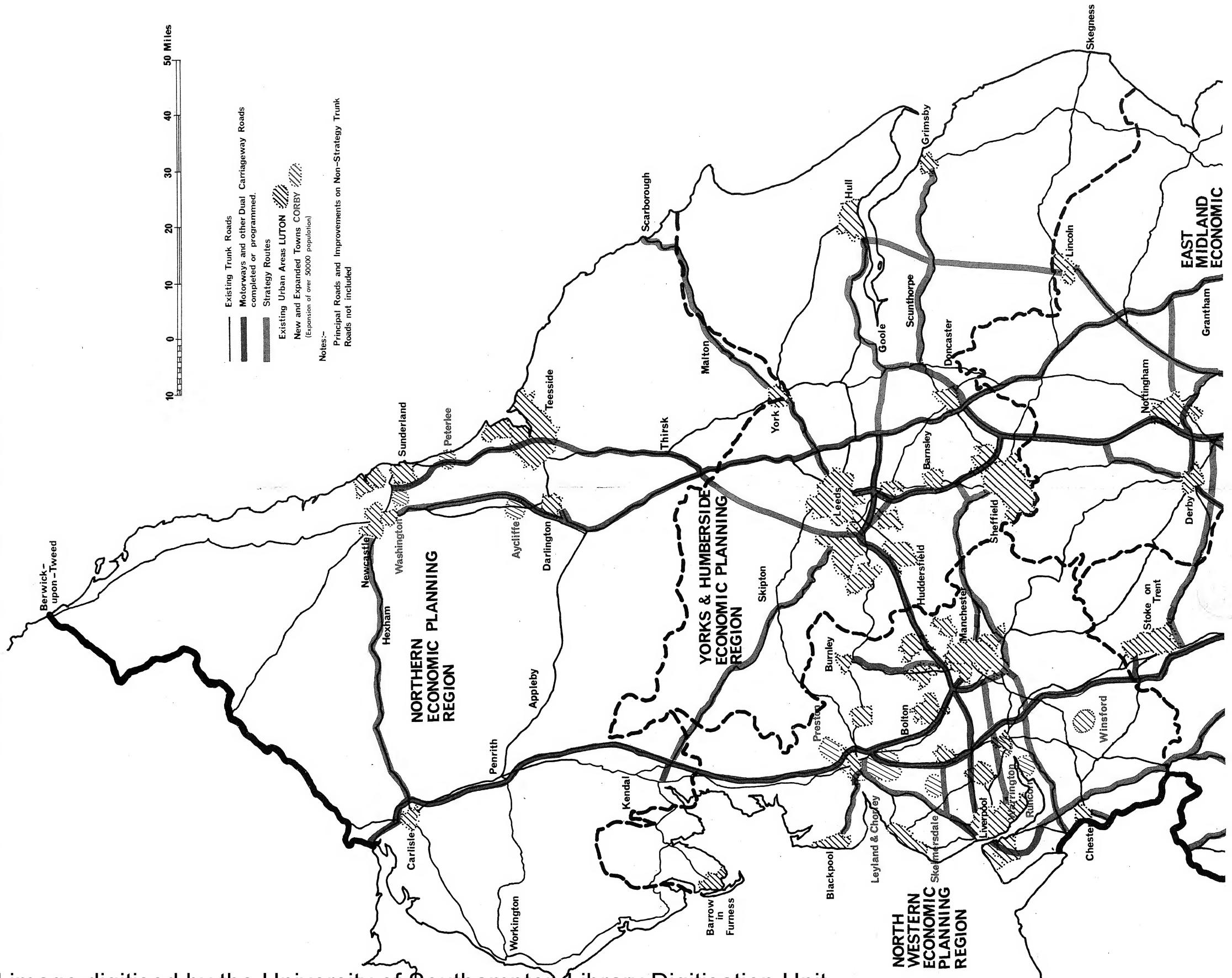
Essentially this is based upon a calculation of the traffic on every section of the trunk road or principal road system and of the changes in traffic flow which would take place if parts of that system were improved or replaced by new roads. To calculate the traffic the Department relies upon relationships between factors which generate traffic—population, vehicle ownership, distance between centres of population—and the actual traffic which occurs in practice. The estimates obtained in this way form a representation (or model) of the vehicle flows on the roads.

For the purposes of the model the information which is used includes details of about 1400 zones of population; all links on the network of trunk and principal roads (generally each link represents the road between two junctions on the trunk or principal road system); and the characteristics of each link—width, number of side roads, average travelling speed. The traffic which would be generated from each population zone to every other is calculated and assigned to routes. The result is a calculation of the traffic on every part of the existing road

REGIONAL STRATEGY PROPOSALS

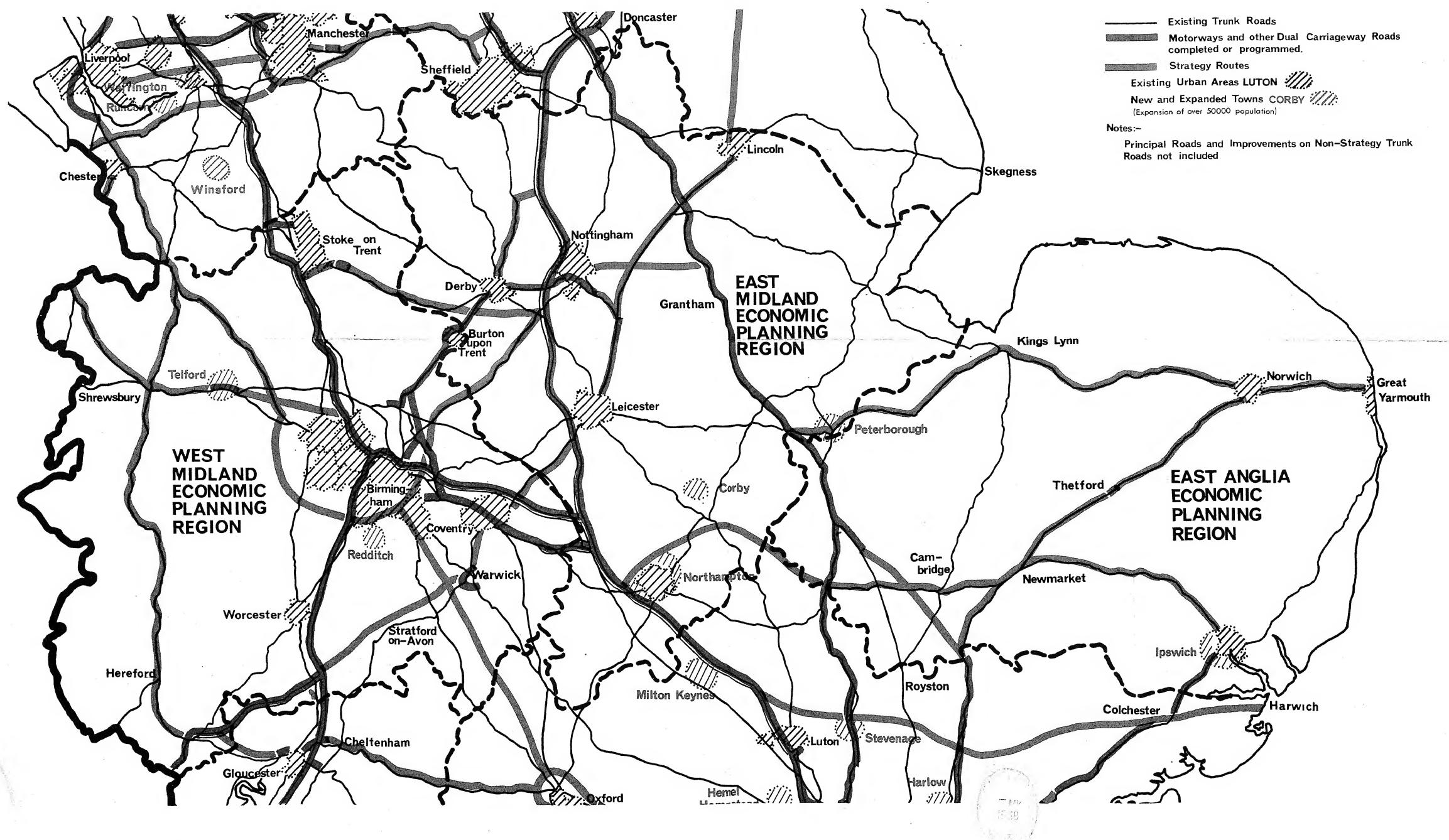


REGIONAL STRATEGY PROPOSALS



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